Session 5.2: PLF Technology development and data accessibility

S05.O-11

360 INNOVATIVE SOLUTIONS FOR THE SUSTAINABILITY OF AMS DAIRY FARMS IN SPAIN

Noureddine Charfeddine.

CONAFE, Valdemoro, Spain.

Dairy cattle farming in Spain has evolved over the last decades. The use of AMS is becoming more and more frequent and is contributing to the intensification of Spanish livestock farming, which has had positive economic repercussions. However, such intensification has negatively affected other aspects of sustainability, such as the reasonable use of resources, animal welfare, environment, worker safety, and welfare, etc. These negative effects are increasingly evident and require a new evolution in dairy farming in order to guarantee sustainable food for consumers who are increasingly questioning intensive production systems. On the other hand, the massive amount of information offered by the new technology has made the work of the farmer more complicated.
The GO_AMSOS 360º task force, starts on November 2022 and aims to capture and connect all available information at the individual animal level in a production system with electronic identification, and to create two tools that help automatic milking livestock farming become more economically sustainable and easier to manage by the farmer.
The first tool is a 360° intelligent herd management application that supports decision-making based on the 360° concept that considers all perspectives when using information. It integrates all available sources of information and makes its use more accessible to all technicians who collaborate with the farmer in decision-making. The second is a genetic improvement tool based on incorporating new traits related to milking behavior, which helps to breed cows with the right traits to select for high profitability and resilience.
Data sensors and other sources of information, which are recorded on-farm and used in management decisions, are used to be not linked to each other. Most decision-support software applications or tools are developed to address specific problems: they are not presented in an integrated way, they do not address broader problems and do not support decision-making processes based on historical data, nor do they feed from different sources of information, and do not consider the overall current situation or the specific needs of the farm.
The proposal developed in this task force tries to combine the sophistication of artificial intelligence, the diversification of information sources, the simplicity of the message and feedback, and the reliability of human intelligence to articulate two tools. The **DST Cow health Tech 360** helps the early detection of lameness and mastitis cases and decision-making with the collaboration of trimmers and milk quality technicians. A selection tool IMER (Total Economic Merit Index for AMS dairy farms) to identify the parents of the next generation of cows, which produce a lot of milk, and remain as less time as possible in the box, have practically no incidence during milking and hardly show health issues.